



WASS and CIVFORS in a NUTSHELL





Quotables...

There are three kinds of lies: lies, damned lies, and statistics.

-- Disraeli

Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.

-- H. G. Wells

It ain't so much the things we don't know that get us in trouble. It's the things we know that ain't so.

-- Artemus Ward

Round numbers are always false.

-- Samuel Johnson

Never trust any number for any reason.

-- Dr. Engin Orel-Crosby



POC List

Contacts & References

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Elementary Statistical Terms

- Mean (arithmetic mean): The sum of items (Σ) divided by the number of items (n)
Mean = Σ / n
- Median: Middle-ranked value (half are less, half are greater)
Median = $(n + 1) / 2$
- Mode: Value of greatest frequency
- Range: difference between highest and lowest values



Part 1: WASS

(Workforce Analysis Support System)



WASS Characteristics

- Civilian personnel data warehouse
 - 27 years of historical data
 - 31 million employee records (snapshot)
 - 61 million transaction records
 - 140 data elements per record
 - 100 computed fields (retirement eligibility, Army length of stay, etc.)
- Statistical analysis routines used to retrieve data (SAS scripting)
 - Not a query-able database



WASS Data Files

- Strength data
 - Quarterly “snapshots” from 1974 to present
- NOA files for specialized studies
- Edited Gains and Losses files
 - Gains: accessions, transfers in
 - Losses: separations, retirements, voluntary separations, involuntary separations
 - Data element changes



Basic WASS Applications

- **Turnover:** provides basic turnover numbers (losses, accessions over time) to assist in measuring turnover and determining if you have a turnover problem
- **Aging workforce:** provides age data over time to identify occupations, career programs, etc. that may need succession planning
- **Retirements:** provides retirement data over time to identify trends, predictability, upcoming retirement bubbles



Sample of actual WASS applications

- To assess use of recruitment/relocation bonuses and retention allowances
- To assess turnover of selected populations (e.g., Air Traffic Controllers and Nurses) at specified locations to help determine needs for pay change proposals
- To identify retired Budget Analysts who might consider reemployment
- To provide EEO Action Agency numbers of minorities/women for reporting purposes
- To provide trend information on accession of retired military
- To ascertain extent of use of monetary performance awards and dollar amounts of such awards
- To assess high grade/supervisory position fills
- To assess number of competitive vs. non-competitive promotion actions
- To identify temporary/permanent/term composition of work force over time
- To assess age/years of service at time of retirement over time
- To identify retirement system coverage of various segments of the work force for budget estimating purposes



WASS Sample Output: Counts (Frequency)

CP 10 FREQUENCY COUNTS BY AGE

CP10 population at EOFY 89 and 00

FIS_YR	AGE	Frequency Count	Percent of Total Frequency
1989	0	1	0.029
	19	1	0.029
	21	2	0.058
	22	4	0.116
	23	9	0.260
	24	22	0.635
	25	21	0.606
	26	20	0.578
	27	38	1.097
	28	39	1.126
	29	44	1.271
	30	33	0.953
	31	62	1.790
	32	50	1.444
	33	77	2.224
	34	79	2.281
	35	73	2.108



WASS Sample Output: Averages (Univariate Stats)

SAS Results

Average Age CP10 Jun 2001 -- UNIVARIATE STATS

08:33 Tue

Average Age of CP10 employees as of Jun 2001

----- FIS_YR=2001 -----

The UNIVARIATE Procedure

Variable: AGE (AGE)

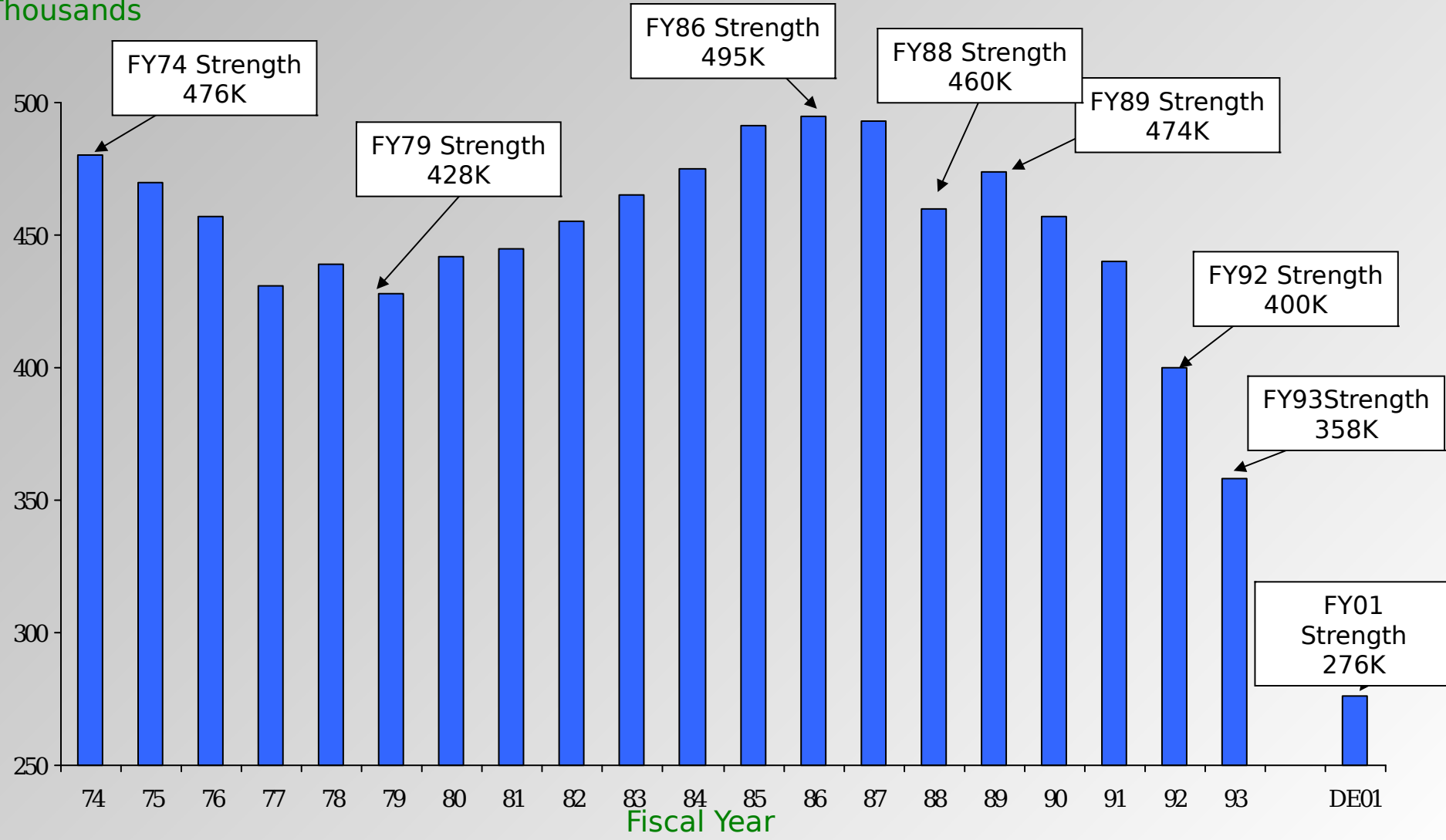
Moments

N	2136	Sum Weights	2136
Mean	47.5107678	Sum Observations	101483
Std Deviation	8.08090682	Variance	65.301055
Skewness	-0.4369086	Kurtosis	0.40750008
Uncorrected SS	4960953	Corrected SS	139417.752
Coeff Variation	17.0085797	Std Error Mean	0.17484752



Products Derived from WASS: Total Army Civilian Strength - Over 27 Years FY 74 through FY 01

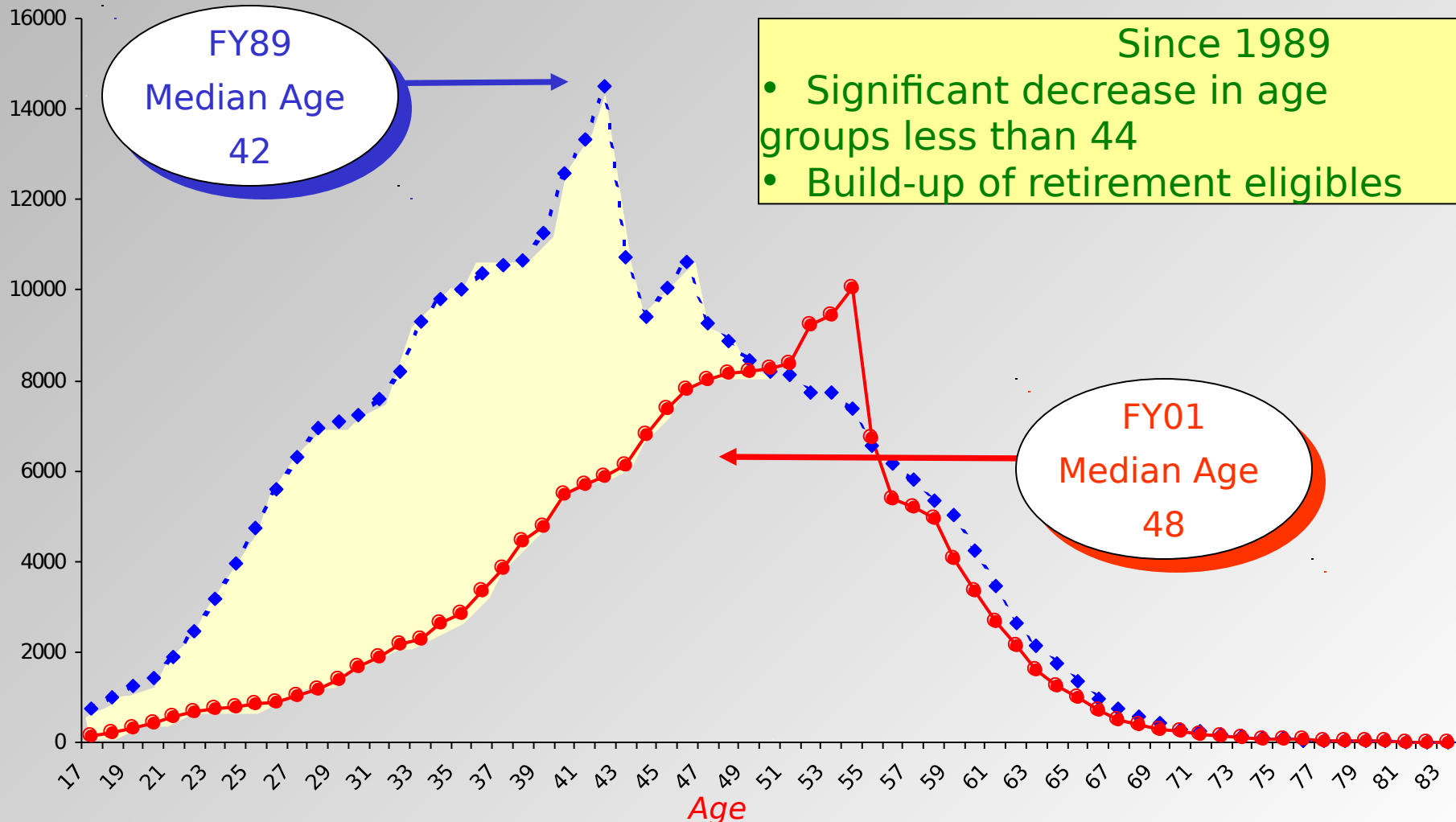
Thousands





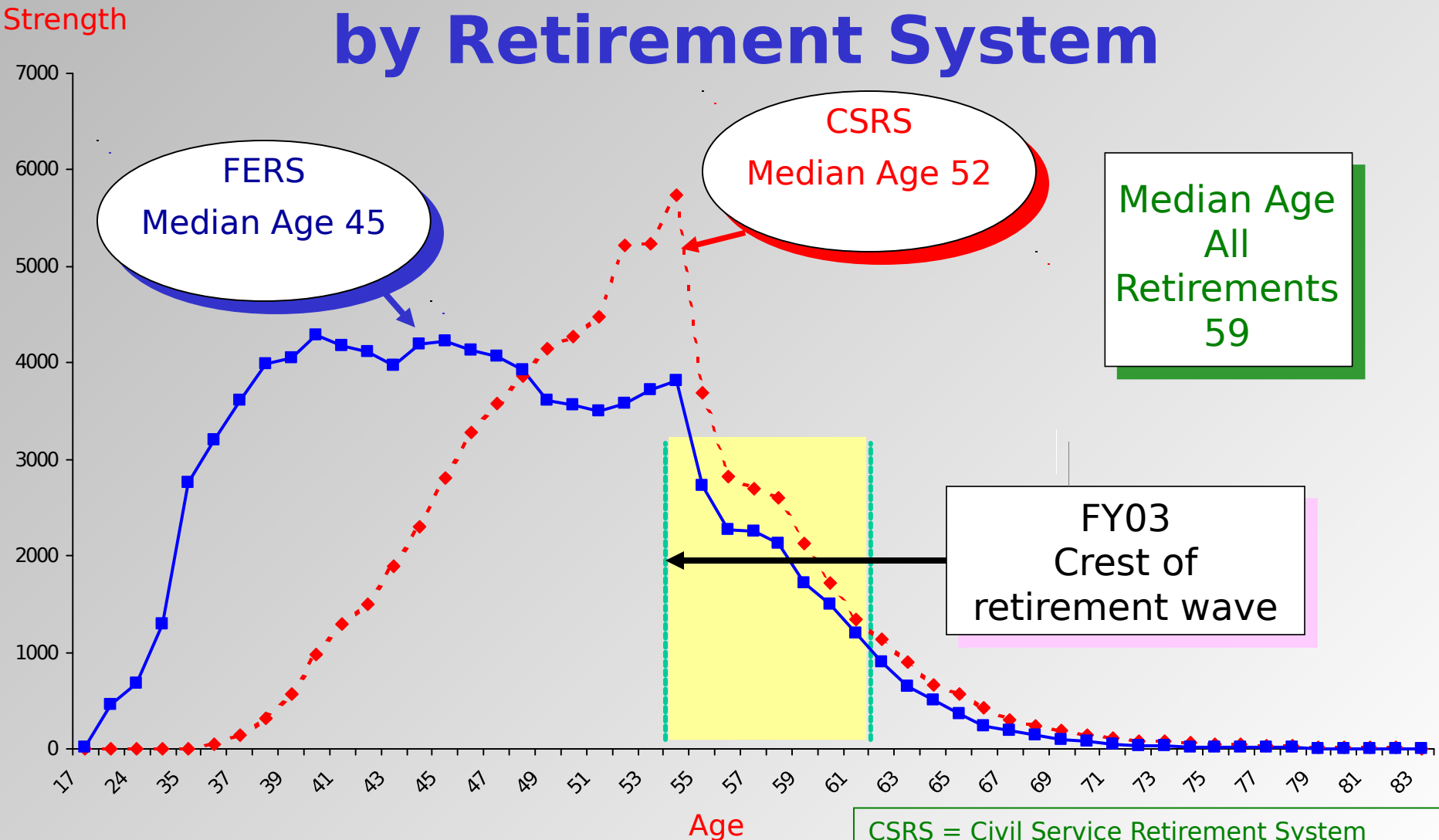
Products Derived from WASS: Shifting Age Distributions

Strength





Products Derived from WASS: Projected Retirements by Retirement System



U.S. Citizen, Direct Hire, Appropriated Fund - Military & Civil Functions

CSRS = Civil Service Retirement System
FERS = Federal Employee Retirement System

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Part 2: CIVFORS

(Civilian Forecasting System)



CIVFORS Characteristics

- Projects for seven years using five years of historical data
 - Includes manpower target data (SAMAS)
 - Projects accession requirements, separations (by type)
 - Can optimize to target levels or run “as is”
- 16 dimensions available for focusing on different populations
- Installation-level data now available



Fundamental CIVFORS Applications

- What are the accession requirements over the next seven years?
 - Overall, or by installation, occupation, grade level, career program, MACOM, or any combination of these or other dimensions
- What are the projected losses over the next seven years?
 - Can identify by retirements, resignations, or involuntary separations
 - Overall, or by installation, occupation, grade level, career program, MACOM, or any combination of these or other dimensions



CIVFORS Dimensions

(used to focus on a population)

- Major command
- Career program
- Occupational series
- Tenure
- Years of service
- Appointment type
- Supervisory code
- Work schedule
- Collar (blue-white)
- Functional designator
- Grade
- Pay plan
- Gender
- RNO
- Age group
- PATCO



CIVFORS Sample Output

USDH Viewer

File Windows Help

H:119(1996Dec - 2001Sep) /P:civfors 200109 NoGoal Baseline(4259) /P:civfors 200109 Goal Baseline(4260) Strength--Targets--Strength--Targets

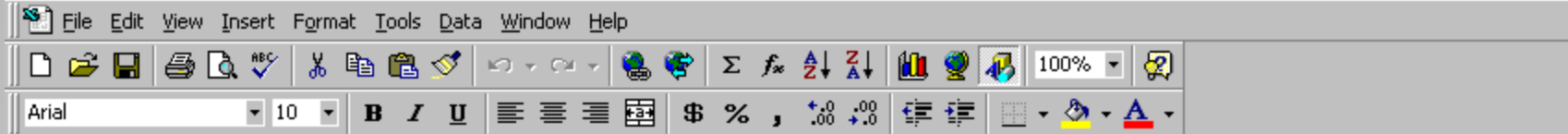
Grid Form Edit

#	PROJ	DATA	1996Dec	1997Mar	1997Jun	1997Sep	1997Dec	1998Mar	1998Jun
1	200109 NoGoal Baseline(4259):	ST	222070	218805	222627	214050	209455	207450	211839
2	200109 Goal Baseline(4260):	ST	222070	218805	222627	214050	209455	207450	211839
3	200109 Goal Baseline(4260):	TARGET	0	0	0	0	0	0	0



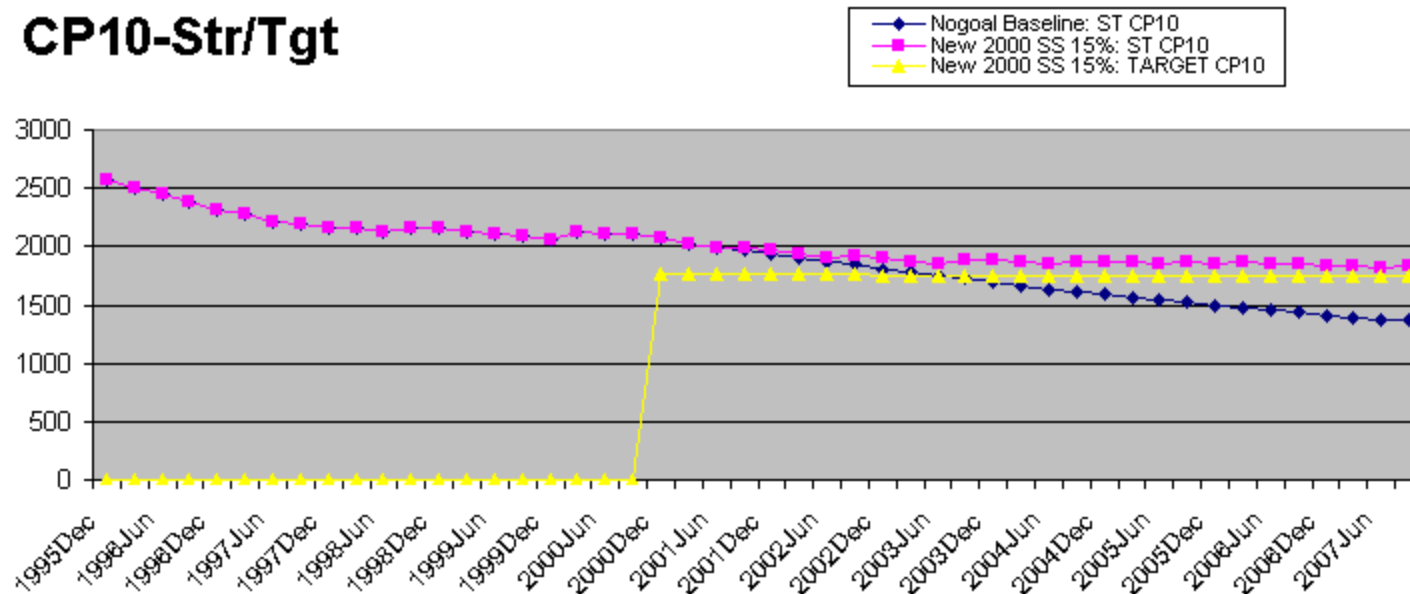
CIVFORS Sample Output in Excel

Microsoft Excel - CP10-Acc-Proj-1.xls



	A	B	C	D	E	F	G	H	I	J	K	L
1	PROJ	DATA	CP	1995Dec	1996Mar	1996Jun	1996Sep	1996Dec	1997Mar	1997Jun	1997Sep	1998Dec
2	Nogoal Baseline:	ST	CP10	2567	2498	2446	2378	2308	2282	2213	2202	
3	New 2000 SS 15%:	ST	CP10	2567	2498	2446	2378	2308	2282	2213	2202	
4	New 2000 SS 15%:	TARGET	CP10	0	0	0	0	0	0	0	0	

CP10-Str/Tgt





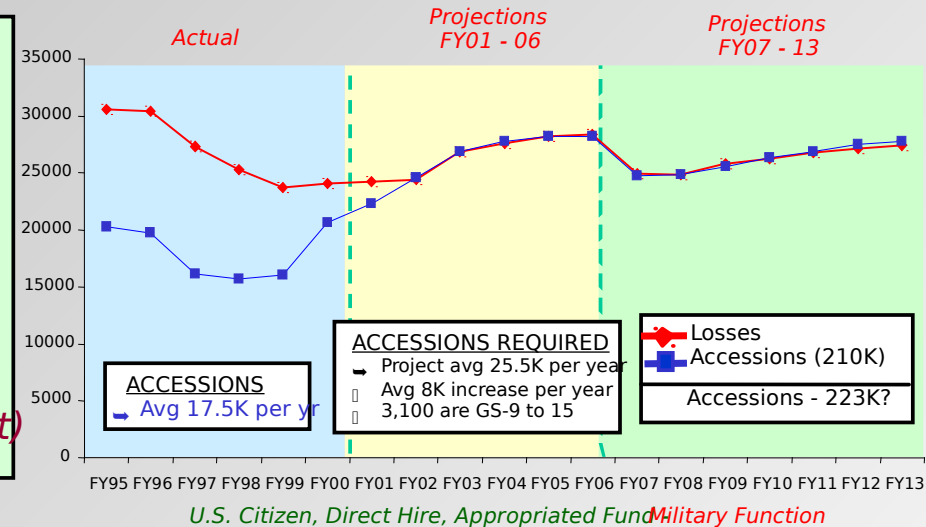
Products Derived from CIVFORS: Actions based on forecasts

Civilian Recruiting, Advertising & Marketing Plans

Accession Requirements

Recruiting Situation:

- Tight labor market with skill shortages
- Recruiting hampered by --
 - Pay & benefits limitations
 - Slow, cumbersome hiring system
 - Image
- Accession requirements will increase
 - Retirement bubble
 - End of drawdown ("1-for-1" replacement)



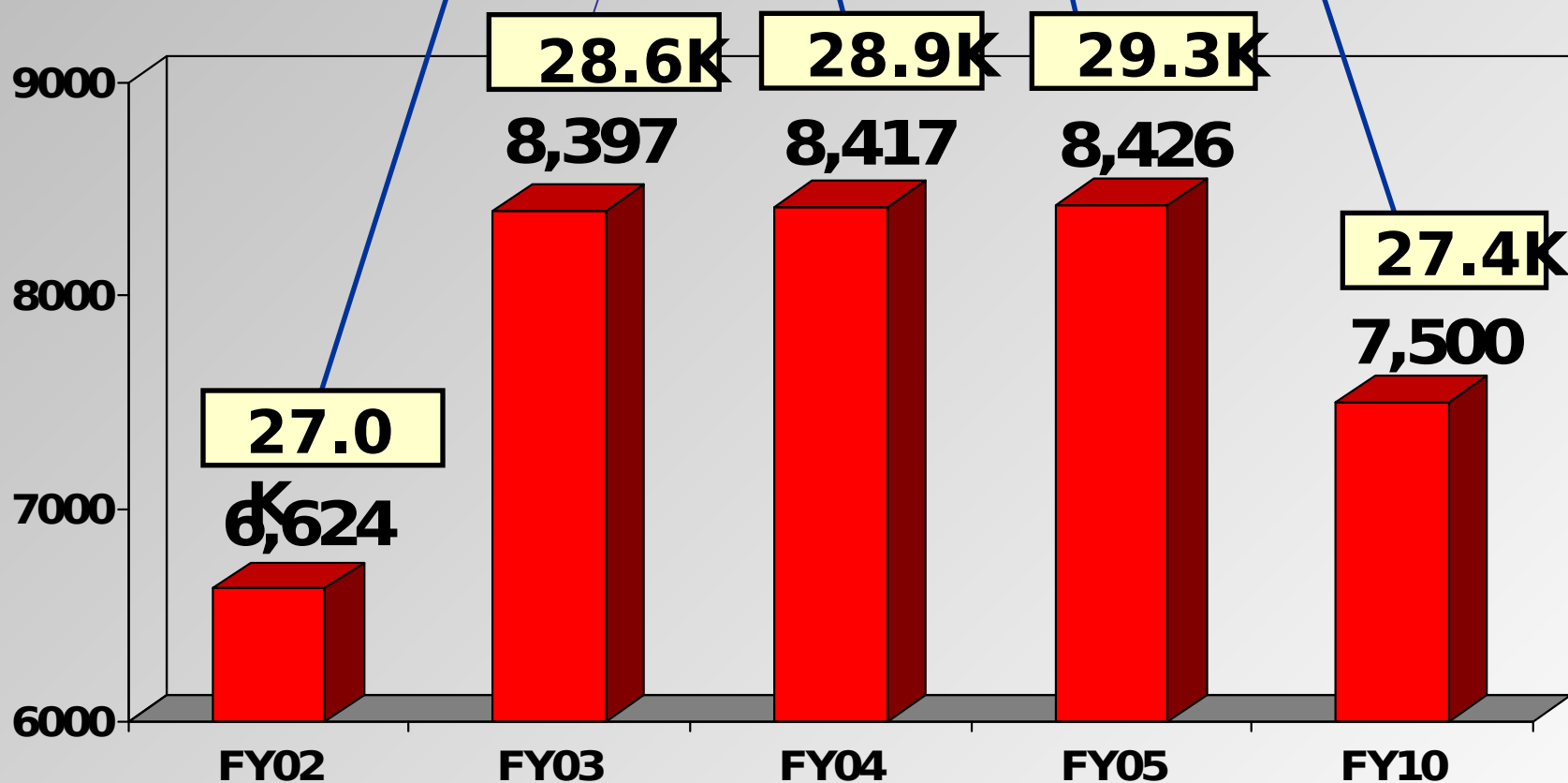
Our Plan

- Evaluate impact of projected job fill needs on recruitment & training budgets
- Conduct marketing survey
- Identify best recruiting practices
- Develop FY02 implementation plan to
 - Support FY04-08 POM requirements
 - Document accession requirements and validate approach
 - Define metrics for success



Products Derived from CIVFORS: Projected Retirements*

**Accession Requirement = Replacing Retirements +
Other Losses**

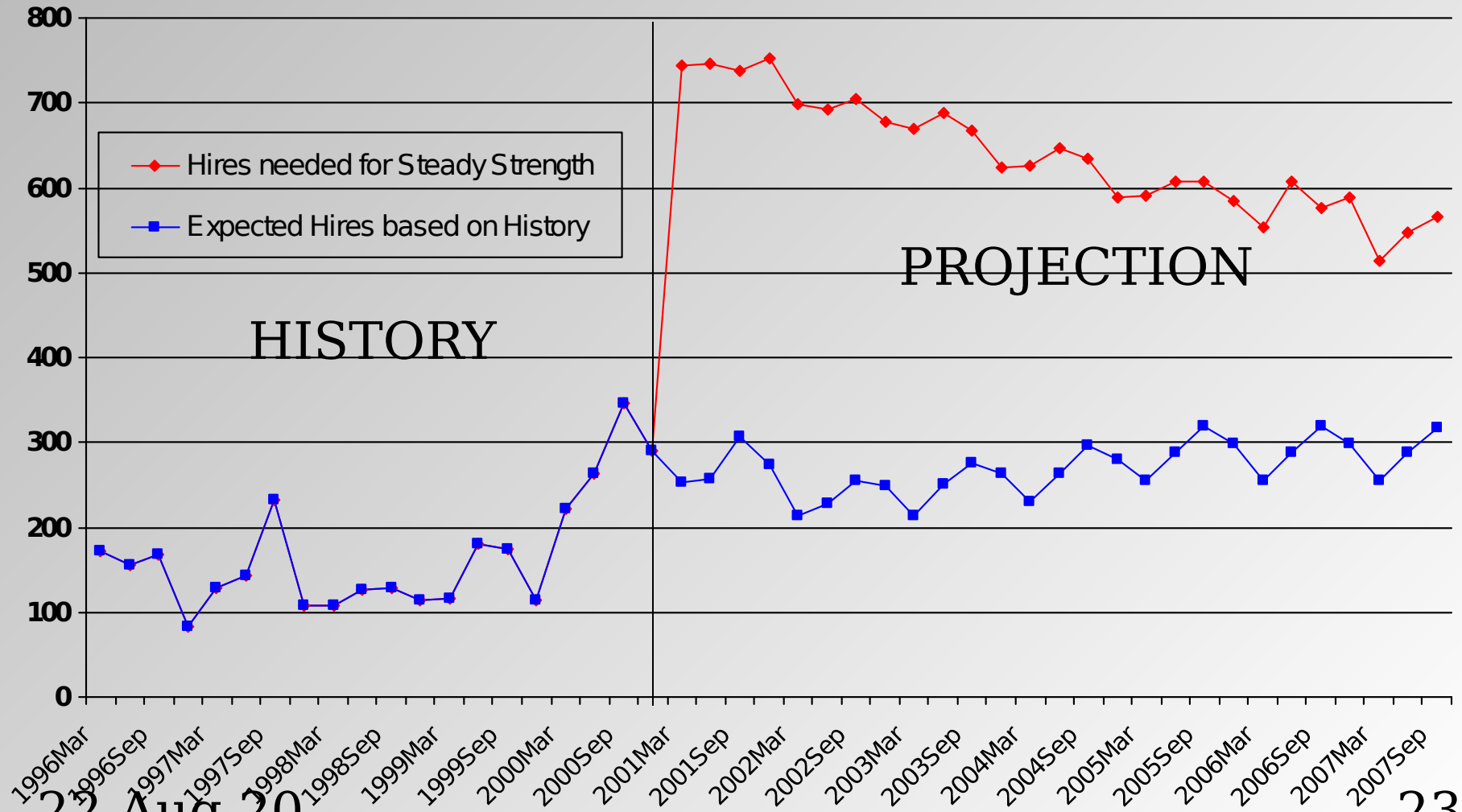


Source: WASS/CIVFORS
U.S. Direct Hire, Appropriated Fund, Military & Civil Function - Full-time Equivalents

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*Optional, Early, FERS, etc.



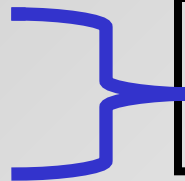
Products Derived from CIVFORS: Army MACOM X Population Workforce Hire Level Projections (Hires for Steady Strength vs Historical Practice)





Which Application?

- WASS
- CIVFORS
- DCPDS
- CSU Application
- HQ ACPERS
- CIVPRO
- ART (various tools)
- SF50 History Database



Use BOA query/
reporting tool